

1. KRAPIVNER, L.M.
2. USSR (600)
4. VOL'FERTS, VALERIAN IULEVICH, 1872-1946
7. Poor revision of an important textbook. ("Food inspection by veterinarians.")
B.Yu. Vol'ferts. Reviewed by L.M. Krapivner. Veterinariia 29 no. 12. 1952
9. Monthly List of Russian Accessions, Library of Congress, March, 1953. Unclassified.

KRAPIVNER, L. [M.]

Improving the quality indexes of meat. Mias.ind. SSSR 24 no.6:
33-34 '53. (MLRA 6:12)
(Meat industry)

KRAPIVNER, L. M.

USSR/Medicine - Veterinary

FD-481

Card 1/1 : Pub. 137 - 22/24

Author : Krapivner, L. M.

Title : Interrepublic seminar on veterinary-sanitary inspection

Periodical : Veterinariya, 7, 61-63, Jul 54

Abstract : A scientific seminar of inspectors in veterinary sanitation was held in Moscow, March 25—April 6, 1954, with 74 veterinary physicians attending. This delegation of veterinary physicians represented about 5,000 food inspectors of the Ministry of Food Products Industry of the USSR. After exchange of opinions and experiences the delegates were received by the Deputy Minister of Food Products Industry of the USSR, L. E. Burtsev. He told them that they must strive to improve the quality of meat and to increase production of food of animal origin.

Institution :

Submitted :

KRAPIVNER, L.M., veterinarnyy vrach.

A good book (Principles of forensic veterinary testimony V.Z. Cherniak, A.A. Dobin, P.I. Kokurichev. Reviewed by L. M. Krapivner). Veterinariia 33 no.3:88-91 Mr '56. (MLRA 9:5)
(VETERINARY JURISPRUDENCE) (CHERNIAK, V.Z.) (DOBIN, A.A.)
(KOKURICHEV, P.I.)

KRAPIVNER, L.M.

Some problems in veterinary and sanitary control in refrigerated transportation. Veterinariia 33 no.8:68-70 Ag '56. (MIRA 9:9)

1. Starshiy veterinarnyy vrach Rizhskogo portovogo kholodil'nika.
(Refrigerator cars) (Meat, Frozen)

KRAPIVNER, L.M.

Conference on the theory and practice of food products inspection
(meat, milk and fish). Vop.pit. 17 no.6:83-87 N-D '58.

(MIRA 12:2)

(FOOD ADULTERATION AND INSPECTION)

KRAPIVNER, L.M.

"Veterinary control in the meat industry" by D.M.Teternik,
F.P.Laptev, M.B.Kogan. Reviewed by L.M.Krapivner. Veterinariia
35 no.12:74-76 D '58. (MIRA 11:12)
(Meat inspection) (Teternik, D.M.) (Laptev, F.P.)
(Kogan, M.B.)

KRAPIVNER, L.

Rodent control. Mias.ind.SSSR 30 no.6:43-44 '59. (MIRA 13:4)

1. Rzhskiy portovyy kholodil'nik.
(Riga--Rodent control) (Riga--Meat industry)

KRAPIVNER, L.M.

Some materials on the history of the higher veterinary schools in
Russia. Veterinariia 36 no.9:84-89 S '59.

(MIRA 12:12)

(Veterinary medicine--Study and teaching)

KRAPIVNER, L. M. and MITROFANOV, V. M.

"About the book 'Veterinary and Sanitation examination and technology of cattle-breeding products'."

Veterinariya, Vol. 37, No. 1, 1960, p. 88

Krapivner - Sr. V. D. -

KRAPIVNER, L. M.

Senior Veterinary Surgeon, Riga Port Refrigerator (Reviewer)

A valuable book*, Veterinariya, Vol. 37, No. 11, p. 89, 1960.

*Agul'nik, M. A., and Kornev, I. P. Mikrobiologiya Miasnykh i Ptitseproduktov
/Microbiology of Meat and Poultry Products/. Manual for technical schools
(technicums). Pishcherpromizdat. 1959, p. 125, 10 pictures; 3,000 copies,
price 2 r. 75 k. without cover.

KRAPIVNER, L.M.

"Microbiology of meat and poultry products; a textbook for technical schools" by [prof.] M.A. Agul'nik, [dotsent] L.P. Korneev. Reviewed by L.M. Krapivner. Veterinariia 37 no.11: 89-91 N '60. (MIRA 16:2)

1. Starshiy veterinarnyy vrach Rizhskogo portovogo kholodil'nika.
(Meat—Microbiology) (Eggs—Preservation)
(Agul'nik, M.A.) (Korneev, I.P.)

MITROFANOV, V.M., dotsent; KRAPIVNER, L.M., starshiy veterinarnyy vrach

"Tuberculosis of domestic fowl" by P.I.Kokurichev, V.I.Rotov.
Reviewed by V.M.Mitrofanov, L.M.Krapivner. Veterinarija 38
no.1:85-88 Ja '61. (MIRA 15:4)

1. Kirgizskiy sel'skokhozyaystvennyy institut (for Mitrofanov).
2. Rzhskiy portovyy kholodil'nik (for Krapivner).
(Tuberculosis in poultry) (Kokurichev, P.I.)
(Rotov, V.I.)

KRAPIVNER, L., veterinarnyy vrach

"Veterinary and sanitary expertise and fundamentals of the technology of animal products" by Kh.Goregliad, V.Koriashnov, IA.Shlipakov.
Reviewed by L.Krapivner. Mias.ind. SSSR 33 no.3:58-59 '62.

(MIRA 15:7)

(Animal products) (Slaughtering and slaughterhouses)
(Goregliad, Kh.) (Koriashnov, V.) (Shlipakov, IA)

KRAPIVNER, L.M. (Senior Veterinary Doctor of the Riga Harbor Refrigerator).

"N.N. Mari, a distinguished scientist..."

Veterinariya, vol. 39, no. 3, March 1962 pp. 84

KOLARSKIY, N.A.; Krapivnor, L.M.; KUKHTA, P.P.

In the Soviet Union. Veterinariia 37 no.7:92-96 JI '60.

(MIRA 16:2)

(Veterinary medicine)

MITROFANOV, V.M., dotsent; KRAPIVNER, L.M., starshiy veterinarnyy vrach

On the book "Veterinary sanitary examination and the technology of meat products" by B.N.Fedotov. Reviewed by V.M. Mitrofanov, L.M.Krapivner. Veterinariia 37 no.1:88-91 Ja '60. (MIRA 16:6)

1. Frunzenskiy sel'skokhozyaystvennyy institut (for Mitrofanov).
2. Riazhskiy portovyy kholodil'nik (for Krapivner).
(Meat inspection)

KALUGIN, V.I., kand.veterin.nauk; BAZHENOV, S.V., prof.; KRAPIVNER, L.M.

History of veterinary medicine. Veterinariia 40 no.9:77-82 S '63.
(MIRA 17:1)

KAS'YANOV, A.N.; KRAPIVNER, L.M.; LUZYANIN, D.; SHARABRIN, I.;
KHAVCHENKO, D.; AFANAS'YEV, Ya.I.; ABUSHAYEV, I.Sh.;
IMANOV, E.D.

Information and brief news. Veterinariia 40 no.4:87-93
Ap '63. (MIRA 17:1)

KRAPIVNER, L.M.; AKHMEDOV, A.M., prof.; YEGOROV, I.; IVANOV, M.M., prof.;
PAVLOVSKIY, V.V., kand.veterin.nauk

Book reviews and bibliography. Veterinariia 41 no.3:112-117 Mr '64.
(MIRA 18:1)

1. Smarkandskiy sel'skokhozyaystvennyy institut (for Akhmedov).

KRAPIVNER, I.M.

Karl Matveevich Gol'tsman and his time. Veterinariia 41

no.6:116-117 Ja '64.

(MIRA 18:6)

KRAPIVNER, L.M., veterin. vrach; KOLOBLOTSKIY, G.V., prof.

Recollections concerning Valerian IUL'evich Vol'ferts. Veterinariia
41 no.12:93 D '64. (MIRA 18:9)

KRAPIVNER, R.B.

Problem of the connection between the Kama, Vychegda, and Pechora Basins in the Quaternary period and the periglacial sediments of the Kama Basin. Biul. MOIP. Otd. geol. 36 no.2:81-101 Mr-Apr '61.
(MIRA 14:7)

(Kama Valley--Glacial epoch) (Vychegda Valley--Glacial epoch)
(Pechora Valley--Glacial epoch)

KRAPIVNER, S. L.

137-58-4-6419

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 12 (USSR)

AUTHORS: Miller, V. Ya., Volgin, B. P., Tikhonova, Z. A. Krapivner
S. L.

TITLE: Sintering of Pyrite Cinders and Metallurgical Assessment of the
Clinker Derived From Them (Spekaniye piritnykh ogarkov i
metallurgicheskaya otsenka poluchennogo iz nikh aglomerata)

PERIODICAL: Tr. Ural'skogo n. t. khim. in-ta, 1957, Nr 4 pp 116-133

ABSTRACT: Experiments in the sintering of pyrite cinders (PC) by pul-
verized-pyrite roasting furnaces, as an instance of the possible
utilizations of PC are described. The fuel was Kemerovo coke
breeze of the 0-3 mm class, having 15.30 percent ash and 0.26
percent S. The layout of an experimental sintering plant is pre-
sented. In "heat value"--coke consumption per ton of iron--and
also in consumption of flux in a blast-furnace heat the clinker
(C) from PC is equivalent to sand-clay refuse C having the same
Fe content. PC C requires more flux and coke per blast furnace
heat than does magnetic ironstone C, since the gangue of PC is
exceptionally acid. But where ores have a low $\text{SiO}_2 \cdot \text{Al}_2\text{O}_3$ ratio,
this peculiarity of PC C is a positive factor. When 8-10 percent

Card 1/2

137-58-4-6419

Sintering of Pyrite Cinders (cont.)

C is added to the charge, the Cu they add does not interfere with the smelting of common conversion pig irons. The Zn content of the C is appx. 0.5 percent. When the charge contains 60-65 percent PC, this will add appx. 0.032 percent Zn to blast furnace charge, and this cannot but introduce difficulties in smelting. Thus, C from flotation tailings of furnaces and dust-catchers may be employed with adequate effectiveness by addition to the charges of sintering plants employing magnetic ironstones. Up to 10 percent of the weight of the charge may thus be added. Simultaneous addition of sand-clay refuse or ochre-brown ore fines, which speed the sintering process, is highly desirable.

A. Sh.

1. Minerals--Sintering--Test methods
2. Minerals--Sintering--Test results

Card 2/2

KRAPIVNER, S. L.

5(2)

FRANK I BOOK EXPIRATION

307/1916

Vsesoyuznoye soveshchaniye po khimii bora, 1955
Bor; trudy konferentsii po khimii bora i ego soedineniy (Boron;
Transactions of the Conference on the Chemistry of Boron and
Its Compounds) Moscow, Goskhimizdat, 1954. 189 p. Errata slip
inserted. 2,400 copies printed.

Ed.: G.P. Luchinskii; Tech. Ed.: M.S. Lur'ye.

PURPOSE: This book is intended for chemists, as well as for
industrial personnel working with boron and its compounds.

COVERAGE: This collection contains 24 studies on the chemistry,
crystallographic structure, physicochemical properties, and the
technology of boron and its compounds. Twenty-two of the
studies were presented at the All-Union Conference on Boron
Chemistry, held at the Nauchno-Issledovatel'skii Khimiko-
khimicheskii Institut im. L. Ya. Karpoza (Scientific Re-
search Physicochemical Institute im. L. Ya. Karpov) in

~~December 1955. Two of these articles deal with the thermo-~~
~~chemistry of boron. The two studies on "boronum" pro-~~
~~duction are being published for the first time. The studies~~
~~are well illustrated and accompanied by bibliographies.~~

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| Polyak, A.M., Ye. N. Pilyavskaya, G.B. Rasov, M.P. Kostov, and L. I. Deryabin. Boric Acid Production by the Decomposition of Ioduric Borates With Mixtures of Nitric and Sulfuric Acids | 135 |
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| Card 5/6 | |

LYAPUSTINA, Ye.M.; KRAPIVNER, S.L.; RIMSKAYA, L.P.

Technical and economic comparison of different methods of
roasting flotation pyrite. Zhur.VKHO 7 no.1:25-32 '62.

(MIRA 15:3)

(Pyrite)

KRAPIVNER, V.S.; KHMEL'NITSKAYA, K.K.

Condition of the cardiovascular system in endarteritis obliterans of the lower extremities. Sov.med. 20 no.5:54-58 My '56. (MLRA 9:9)

1. Iz otdeleniya funktsional'noy diagnostiki (zav. V.S.Krapivner) polikliniki imeni F.M.Dzershinskogo (glavnyyvrach I.G.Karakazov, nauchnyy rupovoditel' - prof. A.N.Berinskaya) Ministerstva neftyanoy promyshlennosti SSSR.

(~~ENDARTERITIS~~ OBLITERANS, complications,
cardiovasc. dis., systemic, in endarteritis of leg (Rus))
(CARDIOVASCULAR SYSTEM, in various diseases,
endarteritis obliterans of lower extremities with
systemic cardiovasc. manifest. (Rus))

KRAPIVNER, V.S. (Moskva)

Course of myocardial infarct in patients with hypertension; late results. Klin. med. 34 no.1:46-51 Ja '56. (MLRA 9:5)

1. Iz terapevticheskogo otdeleniya polikliniki imeni Dzerzhinskogo MHP (Glavnyy vrach I.G. Karakozov, nauchnyy rukovoditel' prof. A.N. Berinskaya)

(MYOCARDIAL INFARCT, etiol. and pathogen.

hypertension, clin. aspects & progn.)

(HYPERTENSION, compl.

myocardial infarct. clin. aspects & progn)

KRAPIVNER, V.S. (Moskva)

Prolongation of life and working capacity following myocardial infarction. Klin.med. 39 no.5:59-65 My '61. (MIRA 14:5)

1. Iz terapevticheskogo otdeleniya (zav. V.S. Krapivner) polikliniki imeni Dzerzhinskogo Ministerstva zdravookhraneniya RSFSR (glavnyy vrach - zasluzhennyy vrach RSFSR I.G. Karakozov).
(HEART—INFARCTION)

KRAPIVNER, V.S.

Dispensary observation of patients who have survived myocardiac
infarction. Sbor.nauch.-prak.rab.Poliklin.im.F.E.Dzerzh.
no.2:14-35 '61. (MIRA 16:4)

(HEAR--INFARCTION)

KRAPIVNER, V.S.

Recurrent myocardial infarctions in patients with thyrotoxi-
cosis. Sbor.nauch.-prak.rab.Poliklin.im.F.E.Dzerzh. no.2:36-38
'61. (MIRA 16:4)

(HEART--INFARCTION) (THYROID GLAND--DISEASES)

1. KRAPIVNER, YU. A.-Eng.
2. USSR (600)
4. House Painting
7. Wall-painting without the use of fillers. Biul. stroi. tekhn. 9, no. 19, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January, 1953, Unclassified.

1. FRANIVNER, Yu. A., ENR., ZEL'TSER, R. S., ENR.

2. USSR (600)

4. Efficiency, Industrial

7. Suggestions for rationalization in the field of special work. Biul. stroi. tekhn.
9, no. 22, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

KRAPIVNER, Yu. A.

KRAPIVNER, Yu., inzh.

Xylolite floors. Stroitel' no.9:25 S '57.
(Floors) (Xylolite)

(MIRA 10:12)

KRAPIVNER, Yu.A., inzh.; EYDINOV, Yu.S., inzh., nauchnyy red.; KRYUGER,
Yu.V., red.izd-va; BOROVNEV, N.K., tekhn.red.

[Tiling] Plitochnye raboty. Moskva, Gos.izd-vo lit-ry po stroit.,
arkhit. i stroit.materialam, 1958. 63 p. (MIRA 12:6)
(Tiles)

KRAPIVNIK, Ya. I.

Simplified design of push rods. Sel'khoz mashina no. 9:29-30 S '56.
(Gas and oil engines) (MLRA 9:11)

KRAPIVNITSKIY, A.N.

A case of ileocystoplasty. Urologiia 23 no.5:7-8 S-0 '58

(MIRA 11:11)

1. Iz kafedry urologii (zav. prof. A.M. Gasparyan) I Leningradskogo
meditsinskogo instituta.

(BLADDER, surg.

ileocystoplasty, case report (Rus))

(ILEUM, surgery

same (Rus))

KRAPIVNITSKIY, A.H. (Leningrad)

Critical comments on S.D. Goligorskii's article "Treatment of contraction of the bladder by intestinal transplants." Urologiia 24 no.3:49-50 My-Je '59. (MIRA 12:12)

(BLADDER--DISEASES) (INTESTINES--TRANSPLANTATION)
(GOLIGORSKII, S.D.)

KRAPIVNITSKIY, G., brigadir prokhodchikov

Wonderful assignment, Sov. shakh. 11 no.10:38-39 0 '62.
(MIRA 15:9)

1. Luganskaya shakhta No.12 "Mikhaylovskaya" tresta
Pervomayskugol'.

(Donetsk Basin--Labor courts)

ROSTOVTSSEV, N.F., akademik; KRAPIVNITSKIY, V.Z.

Meat productivity of young Red Steppe cattle and their crosses
with Charolais cattle. Dokl. Akad. sel'khoz. nauk no.3:27-31

Mr '65.

(MIRA 18:5)

1. Sibirskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.

KRAPIVNYY, A. P. Cand Biol Sci -- (diss) "Ecology and economic importance
of white European stork¹, black stork², and common gray heron³ in Belorussia."
Minsk, 1958. 20 pp (Acad Sci Belorussian SSR. Department of Zoology and
Parasitology), 100 copies (KL, 57-58, 100)

KRAPIVNYI, A.P. [Krapivny, A.P.]

Intraspecific relationships of white and black storks (*Ciconia*
ciconia L., *Ciconia nigra* L.). Vestsi AN BSSR Ser. biol. nav.
no.1:62-70 '58. (MIRall:5)
(Byalovezhskaya Pushcha--Storks)
(Animals, Habits and behavior of)

KRAPIVNYI, A.P.

Feeding habits of the grey bittern (*Ardea cinerea* L.) on Lake
Naroch'. Biul. Inst. biol. AN BSSR no. 3:236-238 '58. (MIRA 13:7)
(NAROKH' LAKE--BITTERN)

KRAPIVNYI, A.P.

Distribution and abundance of white storks in White Russia.
Ornitologiya no.2:143-146 '59. (MIRA 14:7)
(White Russia--Storks)

KPAPIVNYI, V. F., Cand Med Sci (diss) -- "The clinical-anatomical aspects of ankle breaks". Khar'kov, 1960. 16 pp (Khar'kov Med Inst), 200 copies (KL, No 10, 1960, 136)

ACC NR: AR6035051

SOURCE CODE: UR/0058/66/000/008/E071/E071

AUTHOR: Bodyul, P. P.; Krapivnyy, V. M.; Shura, V. K.

TITLE: Temperature dependence of some electric properties of indium arsenotelluride alloys containing bismuth impurities

SOURCE: Ref. zh. Fizika, Abs. 8E539

REF SOURCE: Sb. Materialy IV Konferentsii molodykh uchenykh Moldavii, 1964. Sekts. fiz.-matem., Kishinev, 1965, 3-6

TOPIC TAGS: bismuth containing alloy, indium containing alloy, tellurium containing alloy, thermal emf, resistivity, solid solution

ABSTRACT: The temperature dependence of the resistivity and thermal emf of solid $(\text{InAs})_{3x}(\text{In}_2\text{Te}_3)_{1-x}$ solutions has been investigated. It is shown that in the proximity of the composition $x = 0.5$, both possess high values of the electrothermic Q-factor (Z). Additions of Bi in concentrations of up to 0.5% makes it possible to increase Z; a further increase in Bi concentrations (up to 2%) has no influence on the electric properties of the material. V. Shevchenko. [Translation of abstract] [DW]

SUB CODE: 20/

Card 1/1

KRAPKA, O.

Repair of the front axle of the Z-25 tractor. p. 155.
MECHANISACE ZEMEDELSTVI. Vol. 5, No. 6, Apr. 1955

SO: Monthly East European Accession, (EEAL), LC, Vol. 4, No. 9, Sept. 1955 Uncl.

88847

S/044/60/000/007/001/058
C111/C222

/6.1500

AUTHOR: Kraplin, M.A.

TITLE: Some marks of matrices of the linear transformations of analytic spaces

PERIODICAL: Referativnyy zhurnal. Matematika, no.7,1960,47.
Abstract no.7431. Sb.nauchn.statey.Azovo-Chernomosk.in-t
mekhaniz.s.kh., 1959,vyp.8,ch.2,128-133

TEXT: The author considers the linear operator $y = Mx$, where

$M = \begin{pmatrix} a_{11} & a_{22} & \dots \\ a_{21} & a_{22} & \dots \\ \dots & \dots & \dots \\ \dots & \dots & \dots \end{pmatrix}$ which transforms the analytic spaces

$x = \{x_1, x_2, \dots, x_n, \dots\}$ in $y = \{y_1, y_2, \dots, y_n, \dots\}$. The author gives necessary and sufficient conditions which must be satisfied by a matrix M which transfers \bar{A}_1 into A_{∞} (definitions of A_r and \bar{A}_r cf.e.g. R.zh.Mat, 1959, 302).

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C111/C222

Some marks of matrices...

Theorem: In order that the matrix M involves the transformation $A_1 \rightarrow A_\infty$ it is necessary and sufficient that for every $q > 1$ there exists a function of an integral argument $v(j)$ which has the following properties: 1) $\lim_{j \rightarrow \infty} v(j) = \infty$; 2) Every point $(a_{1,n_1}, a_{2,n_2}, \dots, a_{j,n_j}, \dots)$ which lies at the left of the polygon $\{j, v(j)j\}$, i.e. which satisfies the condition $n_j \leq v(j)j$, belongs to the space A_∞ ; 3) For every element $(a_{1,n_1}, \dots, a_{j,n_j}, \dots)$ which lies at the right of the polygon $\{j, v(j)j\}$ the inequality $|a_{j,n_j}| < q_n$ is satisfied. Then, without proof, analogous results are given for the transformations $\bar{A}_0 \rightarrow A_\infty$ and \bar{A}_0 in A_1 .

[Abstracter's note: The above text is a full translation of the original Soviet abstract.]

Card 2/2

84660

16.3400 16.3400 16.6500

S/020/60/134/006/003/031
C111/C222

AUTHOR: Kraplin, M.A.

TITLE: Certain Solutions to a Linear Unhomogeneous System of Difference Equations With Linear Coefficients

PERIODICAL: ¹⁶Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 6,
pp. 1291 - 1294

TEXT: A.F. Leont'yev (Ref. 1), A.A. Mirol'yubov (Ref. 2) and A.G. Naftalevich (Ref. 3) investigated the analytic solutions of differential-difference equations and difference equations respectively, under certain assumptions on the structure of the equation and of coefficients, respectively. The author shows that the principal results of (Ref. 1,2,3) remain true for nonhomogeneous systems of difference equations with linear coefficients. The author considers

$$(1) \sum_{j=1}^m \sum_{k=1}^n (a_{ik}^{(j)} z + b_{ik}^{(j)}) \cdot y_k(z + h_j) = F_i(z), \quad i = 1, 2, \dots, n,$$

$0 = h_1 < h_1 < \dots < h_m$; a_{ik}, b_{ik} - complex numbers, $|a_{ik}^{(1)}| \neq 0, |a_{ik}^{(m)}| \neq 0$;
Card 1/2

84660

Certain Solutions to a Linear Unhomogeneous
System of Difference Equations With Linear
Coefficients

S/020/60/134/006/003/031
C111/C222

the determinant $|a_{ik}(t)|$, where $a_{ik}(t) = \sum_{j=1}^m a_{ik}^{(j)} e^{h_j t}$ has no real

zeros. If $F_i(z)$ is an entire function, then (1) has a solution $\{y_1(z), \dots, y_n(z)\}$ which is regular in a certain domain. If $F_i(z)$ is meromorphic (especially entire) then (1) has solutions with poles, where the principal parts of the solutions in a certain strip can be prescribed arbitrarily. - The author thanks his scientific leader M.G. Khaplanov and A.G. Naftalevich. There are 6 Soviet references.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet
(Rostov-na-Donu State University)

PRESENTED: June 4, 1960, by I.G. Petrovskiy, Academician

SUBMITTED: March 21, 1960

Card 2/2

34817

S/020/62/142/005/006/022
B112/B102

163400

AUTHOR: Kraplin, M. A.

TITLE: Integral and meromorphic solutions of a class of difference equations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 5, 1962, 1011-1014

TEXT: The author considers the difference operator

$$L(y) = \sum_{k=0}^m (a_k + b_k x) y(x + h_k) = \sum_{s=0}^{\infty} (A_s + B_s x) y^{(s)}, \quad \text{where}$$

$$a(t) = \sum_{s=0}^{\infty} A_s t^s = \sum_{k=0}^m a_k e^{h_k t},$$

$$b(t) = \sum_{s=0}^{\infty} B_s t^s = \sum_{k=0}^m b_k e^{h_k t},$$

The equation $L(y) = f(x) = \sum_{n=0}^{\infty} d_n x^n$ is solved by the series

Card 1/3

Integral and meromorphic ...

g/020/62/142/005/006/022
B112/B102

$y(x) = \sum_{n=0}^{\infty} c_n x^n$. The coefficients c_n are determined as follows:

The function $z(x) = \sum_{n=0}^{\infty} (\tilde{c}_n/n!) x^n$ satisfies the equation

$$a(x)z + b(x)z' = g(x) = \sum_{n=0}^{\infty} (\tilde{d}_n/n!) x^n$$

and reads explicitly:

$$z(x) = C \exp\left[-\int_{x_0}^x \frac{a(x)}{b(x)} dx\right] + \exp\left[-\int_{x_0}^x \frac{a(x)}{b(x)} dx\right] \int_{x_0}^x \frac{g(x)}{b(x)} \exp\left[\int_{x_0}^x \frac{a(x)}{b(x)} dx\right] dx = \quad (7).$$

$$= Cz_1(x) + z_2(x)$$

Some consequences of this representation are discussed. Reference is made to A. G. Naftalevich (UMN, 14, v. 4 (88), 195 (1959)). M. G. Khaplanov is thanked for assistance. There are 9 references: 7 Soviet and 2 non-Soviet.

ASSOCIATION: Azovo-Chernomorskiy institut mekhanizatsii sel'skogo khozyaystva (Azov-Black Sea Institute for the Mechanization of Agriculture)

Card 2/3

KRAPOSHIN, S.

Russia - Industries

Financing operation for local industry and producers' cooperatives, Den. i kred., 11, No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

ARTEM'YEV, Sergey Petrovich; KRAPOSHIN, S., otv. red.; BORULYA, A.,
red. izd-va; TELEGINA, T., tekhn. red.

[Financing of capital repairs] Finansirovanie kapital'nogo remonta.
Moskva, Gosfinizdat, 1962. 74 p. (MIRA 15:6)
(Industrial equipment--Maintenance and repair) (Finance)

BABICHEV, M.A.; VELIKANOVA, A.A.; KRAPOSHINA, L.B.

Effect of manganese on the abrasive wear of steel with one per
cent carbon content and of iron alloys. Tren.i izn.mash.
no.15:11-30 '62. (MIRA 15:4)
(Manganese) (Steel--Testing) (Iron alloys--Testing)

BERKOVICH, Ye.S.; NESVIZHSKIY, O.A.; KRAPOSHINA, L.B.; LIBERMAN, V.I.;
KARSANOVA, A.V.; LAKSHIN, S.V.

Determining relative wear resistance of deposits built-up by
the T-590 electrode with various coating on the laboratory
testing machine "rotating bowl." Tren.i izn.mash. no.15:31-46
'62. (MIRA 15:4)

(Metals—Testing)

W. Krapotkina, M.

ROSHCHIN, I.; KRAPOTKINA, M., nauchnyy sotrudnik.

Hygiene in mining. Mast. ugl. 7 no. 4:31 Ap '58.

(MIRA 11:4)

1. Rukovoditel' sektora Instituta sanitarii i gigiyeny imeni Erismana.
(for Roshchin). 2. Institut sanitarii i gigiyeny imeni Erismana (for
Roshchin).

(Miners--Diseases and hygiene)

KRAPOTKINA, M.A.

Changes in the lungs of white rats following intratracheal
introduction of coal and peat dust. Gig. truda i prof. zab.
4 no.11:39-43 N '60. (MIRA 15:3)

1. Moskovskiy nauchno-issledovatel'skiy institut gigiyeny i
sanitarii imeni F.F. Erismana.
(LUNGS--DUST DISEASES)

KRAPOTKINA, M.A.

Effect of noise on workers engaged in vertical shaft sinking. Uch.
zap. Mosk.nauch.-issl.inst.san. i gig. no.7:82-85 '60. (MIRA 15:2)
(SHAFT SINKING__HYGIENIC ASPECTS)
(NOISE__PHYSIOLOGICAL EFFECT)

KRAPOTKINA, M.A. (Moskva)

Basic problems of occupational hygiene in the sinking of
vertical shafts. Gig. truda i prof.zab. 5 no.6:3-9 Je '61.
(MIRA 15:3)

1. Moskovskiy nauchno-issledovatel'skiy institut gigiyony
imeni F.F. Erismana.

(SHAFT SINKING--HYGIENIC ASPECTS)

KRAFOTKINA, M.A.

Experimental data on the effect of dust which forms in the sinking
of vertical shafts. Uch.zap.Mosk.nauch.-issl.inst.san.i gig. no.8:
35-40 '61. (MIRA 16:7)
(LUNGS—DUST DISEASES) (SHAFT SINKING—HYGIENIC ASPECTS)

KRAPOTKINA, M.A., TEPLYAKOVA, R.V.

Hygienic features of the special clothes for sinkers of vertical
coal shafts. Uch.zap.Mosk.nauch.-issl.inst.san.i gig.no.8:41-45'61.
(MIRA 16:7)

(COAL MINERS--DISEASES AND HYGIENE)
(WORK CLOTHES)

KRAPUKHIN, B. A.

FD 165

USSR/Chemistry - Sulfuric Acid Production

Card 1/1

Author : Krapukhin, B. A.

Title : Heat utilization in the manufacture of sulfuric acid

Periodical : Khim. prom. 3, 7-11 (135-139), April-May 1954

Abstract : Discusses utilization of heat derived from the burning of pyrite dust in flash burners, generated in waste heat boilers, obtained from pyrite cinders, and recovered from cooling water. Arrives at the conclusion that it would be economically expedient to generate steam at 10-12 atm abs in waste heat boilers, superheat it, and use it for the generation of electrical energy by means of bleed-off turbines. Illustrated by a heat-balance chart. 2 USSR references are given.

Institution : State Planning Institute for Basic Chemical Plants.

BRIDA 4-0-6 M.

MIL'MAN, B.S.; LYASS, A.M.; TSYPIN, I.O.; KRAPUKHIN, V.M.; VALISOVSKIY, I.V.;
KLOCHNEV, N.I.; AVERBUKH, N.M.; KADNITSOV, V.G.; LIPNITSKIY, A.M.;
RUSSIYAN, S.V.; SKOBNIKOV, K.M.

"Iron founding handbook" edited by [doktor tekhn.nauk, prof.] N.G.
Girshovich. Book review by B.S.Mil'man and others. Lit. proizv.
no.8:46-47 Ag '62. (MIRA 15:11)
(Iron founding--Handbooks, manuals, etc.)
(Girshovich, N.G.)

| 1ST AND 2ND COVERS | | | | | | | | | | PROCESSES AND PROPERTIES INDEX | | | | | | | | | | 3RD AND 4TH COVERS | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--------------------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|
| M | | | | | | | | | | | | | | | | | | | | 10 | | | | | | | | | |
| <p>*Refining Zinc Scrap. V. V. Krapukhin (<i>Sov. Metall.</i>, 1946, 18, (6), 34-36; <i>C. Abs.</i>, 1947, 41, 3412).—[In Russian]. Experiments were carried out in distilling zinc and zinc alloy scrap for the purpose of recovering pure metal. An analysis of the boiling and condensation curves for zinc-aluminum shows that up to 40% of aluminum there will be only around 0.02% of aluminum in the vapour, and consequently the usual distillation column of 20 plates can handle it adequately. Thus treating zinc and scrap in the usual zinc distillation column will yield a product containing not more than lead 30, cadmium 10, and iron 20 g. per ton. No copper, aluminum, antimony, or tin was found in the product. Generally, the composition of the intermediate and end products depends on the nature and chemical and physical composition of</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>the starting material. Blue powder containing cadmium 20 and zinc 60% should be refined for cad mium. Siquation-pot lead should be refined for pure lead. A blue powder containing 65% zinc shouldbewre-distilled. Iron-containing zinc (up to 5% iron) should also be re-distilled. It is estimated that the combined processes withl recover approx. 94% of zinc in the secondary meta l.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>ASM-314 METALLURGICAL LITERATURE CLASSIFICATION</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

KRAPOVNITSKIY, Ye.F., inzh.

Cutter head for making holes in collectors. Khol.tekh. 40
no.5:56 S-0 '63. (MIRA 16:11)

KRAPUCHIN, V. V.; MIKHAYLENKO, A. Ya. (Docent); GRANOVSKIY, B. L. (Engr.)

"Furnaces for the Plants of Nonferrous Metallurgy," from the book
Metallurgical Furnaces (Metallurgicheskiye Pechi) Metallurgizdat, 1951.

Candidate of Technical Sciences

KRAPUKHIN, V.V.

MIKHAYLENKO, A.Ya. KRAPUKHIN, V.V.; VASHCHENKO, A.I., kandidat tekhnicheskikh nauk, retsenzent; YEVDOKIMENKO, A.I., kandidat tekhnicheskikh nauk, retsenzent; GHERNOV, A.N., redaktor; ARKHANGEL'SKAYA, M.S., redaktor; VAYNSHTEYN, Ye.B., tekhnicheskiiy redaktor

[Furnaces used in non-ferrous metallurgy] Pechi tsvetnoi metallurgii. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 458 p. (MLRA 7:9)
(Metallurgical furnaces)

DIOMIDOVSKIY, Dmitriy Aleksandrovich, professor, doktor tekhnicheskikh nauk;
MIKHAYLENKO, A.Ya., kandidat tekhnicheskikh nauk, retsenzent;
KRAPUKHIN, Y.Y., kandidat tekhnicheskikh nauk, retsenzent; YEVDOKIMENKO,
A.I., kandidat tekhnicheskikh nauk, retsenzent; YEGOROV, F.G., inzhener,
retsenzent; MIKHAYLENKO, A.Ya., redaktor; ARKHANGEL'SKAYA, M.S.,
redaktor izdatel'stva; BNRLOV, A.P., tekhnicheskii redaktor

[Furnaces for nonferrous metallurgy; construction, analysis, theory,
calculation] Pechi tsvetnoi metallurgii; konstruktzii, issledovanie,
teoriia, raschet. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi
i tsvetnoi metallurgii, 1956. 459 p. (MLRA 9:12)
(Metallurgical furnaces)

~~KRAPUKHIN, V.V.~~, kandidat tekhnicheskikh nauk; ZAYCHENKO, G.N., kandidat tekhnicheskikh nauk.

Automatization of high-temperature electric retort furnaces. TSvet.
met. 29 no.4:62-68 Ap '56. (MLBA 9:8)

1. Mintsvetmetzoloto.
(Electric furnaces)

KRAPUKHIN, V.V.

137-58-5-10046

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5. p 166 (USSR)

AUTHORS: Berman, S.I., Krapukhin, V.V., Zuyev, S.S.

TITLE: Continuous Sequence Anneal of Nonferrous Semifabricated Products by High-frequency Current (Neprieryvno-posledovatel'nyy otzhig polufabrikatov iz tsvetnykh metallov tokami vysokoy chastoty)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 9, pp 25-29

ABSTRACT: Experiments in the HF anneal (A) of wire, rod, and tubing of nonferrous metals and alloys were conducted under laboratory and shop conditions. HF A was conducted with L62, Cu, manganese, Ni, chromel, and other alloy wires. The equipment, the ductors (I) used for heating, and the treatment procedure are described. Uniform heating of the wire was attained in an I in the form of two parallel Cu tubes of 8 mm diameter, or with elliptical Cu tubing. The wire goes into the I at controlled speed, so that the individual pieces do not touch each other. The length of time the wire spent in the I varied between 1.72 and 24 sec, depending on diameter and composition. In all instances, the mechanical properties of the wire met standard requirements

Card 1/2

137-58-5-10046

Continuous Sequence Anneal (cont.)

after HF A. The microstructure of longitudinal and cross sections of the wire was uniform, grain size being 10-12 microns. Continuous sequence heating of brass and Cu rods was performed on an equipment for case-hardening of rolls with a 2000-kc current. Tubes were A in a pilot-plant setup the generator of which produced a 2650-cps current. A roller conveyor with driven rollers was adapted to transport the tubes through the I. The experiments showed that HF anneal necessitates heating the tubes to a higher temperature than that required in ordinary A in resistance furnaces. Thus, the heating of L62 brass is to 650-760°C, while for Ni it is 850-950°. Oxidation of the surface and loss of metal in HF annealing of brass and Ni tubing is negligible.

A. B.

1. High frequency heating--Applications
2. Metals--Heat treatment

Card 2/2

136-9-11/14

AUTHORS: Krasoulshin, V.V., Candidate of Technical Sciences,
Zaychenko, G. N., Candidate of Technical Sciences,
 and Porshnev, F. M. and Iblin, N. Ya., Engineers.

TITLE: Electric Furnace for carbidization of tungsten.
 (Elektropech' dlya karbidizatsii vol'fra ma).

PERIODICAL: Sovetskoye Metally, 1957, No. 9, pp. 57-77 (USSR).

ABSTRACT: In the investigation described, in which the authors were assisted by L. S. Fil'bin and V. P. Poplavskiy, the use of graphite-tube and two-zone molybdenum furnaces for producing tungsten carbide was studied. The graphite-tube type was found to be liable to produce carbide of inconsistent quality and to be difficult to incorporate in an automatic production line. These objections do not apply to the authors' two-zone molybdenum furnace (Fig.4) which has been mechanized and automated so that the following operations are carried out automatically: introduction of the charge-containing boats into the furnace and their movement through it; discharge of boats with the treated charge from the furnace and their recharging; recovering of boats and their delivery to the furnace charging mechanism. The new system gives carbide product superior to that obtained with graphite tube

Card 1/2

Electric furnaces for carbidization of tungsten. 136-9-11/14
furnaces (Fig. 7). The author's work won a prize at an
All-Union competition for the best proposal on the
automation of contact production.
There are 7 figures and 1 Russian reference.

ASSOCIATION: Mintsvetmetzoloto, Moscow Hard Alloys Combine
(Moskovskiy kombinat tverdykh spлавov).

AVAILABLE: Library of Congress.

1. Tungsten-Carbonization 2. Furnaces-Electrical-Application
Card 2/2

136-11-13/19

AUTHORS: Krapukhin, V.V. and Zaychenko, G.N., Candidates of
Technical Sciences, Rozanova, N.S., Engineer and
Prokhorova, N.G.

TITLE: Drying Hard Alloy Articles by Infrared Rays (Sushka tverdos-
plavnykh izdeliy infrakrasnymi luchami)

PERIODICAL: Tsvetnyye Metally, 1957, No.11, pp. 75 - 78 (USSR).

ABSTRACT: In the work described by the authors and in which
Engineer Ye.A. Gol'dberg participated, the influence of changes
in drying temperature on the time required to dry (i.e. to
remove volatiles from and strengthen) the compressed cermet-mix
object was studied. This was followed by experiments in which
the process was carried out in infra-red radiation from type
C-1 lamps fitted with glass bowls and parabolic mirror reflectors.
Drying time was reduced to 25-35 min., the advantages of
additional heating from the bottom being established. On the
basis of these laboratory experiments, a continuous drier (Fig.1)
was designed (N.P. Yakovlev participating), in which the lamps
are arranged in a checker pattern over the conveyor-borne ob-
jects while nichrome heaters are arranged to heat the undersides
of the objects. The authors show the temperature changes at
different depths inside an object as it passes through the
installation (Figs. 2 and 3) based on tests with a 40 mm high

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Drying Hard Alloy Articles by Infrared Rays

136-11-13/17

x 35 x 25 mm object fitted with thermocouples at three levels. Prolonged use of the installation for titanium-tungsten-cobalt sintered objects has confirmed its reliability. For these materials, the speed of the conveyor is 2.5 m/hr, drying is effected in 30 min., the electricity consumption amounts to 135 kWh/ton of dried material and the daily productivity exceeds 1 ton. The installation is recommended for other metallurgical processes. There are 3 figures and 4 Russian references.

ASSOCIATIONS: Mintsvetmetzoloto and the Moscow Combine for Hard Alloys
(Mintsvetmetzoloto i Moskovskiy kombinat tverdykh splavov)
Library of Congress

AVAILABLE:
Card 2/2

1. Sintered alloys-Drying 2. Infrared rays-Applications

KRAPU KHIN, K.V.

Design of a new type furnace V. P. Kravtsov
1960, 13, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1961 The construction
 was described of a new resistance furnace for making W.C.
 The furnace was a cylindrical furnace 1.8 m. long and 125 mm.
 inside diam., heated by passing through the tube up to 3000
 amp. at 17 v. and resulting in 1400° at a hot zone 100-70 mm.
 in length. An improved furnace with automatic regulation
 had abundant reserves and low heating elements. By using
 this furnace the flow rate of the product was decreased from
 0.001 to 0.0005, consumption of power was decreased from
 700 to 310 Kw. hr./ton, and the furnace life between repairs
 was doubled. B. M. Rabin

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Krapukhin, V.V.

MURACH, N.N., prof., doktor; KRAPUKHIN, V.V.

High purity metals, semiconductor elements and their compounds.
Bibl. TSIIN tsvet. met. no.1:26-28 '58. (MIRA 11:4)
(Semiconductors) (Nonferrous metals)

KRAPUKHIN, V.V.; ZAYCHENKO, G.N.

Improving electric furnaces for the sintering hard alloys. Izv.
vys. ucheb. zav.; tsvet. met. no.2:117-123 '58. (MIRA 11:8)

1. Moskovskiy institut tsvetnykh metallov i zolota. Kafedra
metallurgicheskikh pechey.

(Electric furnaces) (Sintering)

~~KRAPIKHIN, V. V.~~

First interuniversity conference on pure metals. Izv. vys. ucheb.
zav.; svet. met. no.2:173-174 '58. (MIRA 11:8)
(Nonferrous metals)

ZAYCHENKO, G.N.; KRAPUKHIN, V.V.

Control diagrams for high temperature electric furnaces in the hard-alloy industry. Izv.vys. ucheb. zav.; tsvet. met. no.3:102-109
' 58. (MIRA 11:11)

1. Moskovskiy institut tsvetnykh metallov i zolota. Kafedra metal-lurgicheskikh pechey.
(Electric furnaces) (Automatic control)

AUTHOR: Krapukhin, V.V. Dotsent 3-58-5-28/35

TITLE: The Problem of Obtaining Pure Metals (Problema polucheniya chistykh metallov)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, Nr 5, page 83 (USSR)

ABSTRACT: The Intervuz Conference on Pure Metals, Metal Compounds and Semiconductors which took place at the Moskovskiy institut tsvetnykh metallov i zolota imeni Kalinina (MITsMiZ) (Moscow Institute of Non-Ferrous Metals and Gold imeni Kalinin) at the end of 1957, attracted a large number of participants (over 360 persons including 72 from other cities). Among those present were the representatives of 12 higher educational institutions, of 5 institutes of the USSR Academies of Sciences, of 13 scientific-research institutes and designing bureaus of various ministries and departments, etc. The conference began its work by hearing a report of Professor-Doctor N.N. Murach (MITsMiZ) on the problem of obtaining pure metals and its importance for the national economy. N.N. Sirota, Active Member of the BSSR Academy of Sciences, submitted information on the physical properties of semiconductors - elements and compounds. Other orators were: Professor-Doctor D.A. Petrov (Institute of Metallurgy of the AS USSR), Professor

Card 1/2

The Problem of Obtaining Pure Metals

5-58-5-28/35

A.L. Rotinyan and Candidate of Technical Sciences V.L. Kheyfets (Gipronikel'); Professor-Doctor A.V. Nikolayev (MITsMiZ); Professor-Doctor Yu.V. Baymakov (Leningrad Polytechnical Institute); Professor-Doctor S.A. Shchukarev (Leningrad University); Professor-Doctor A.N. Krestovnikov and Assistant V.N. Vigdorovich (MITsMiZ); Professor-Doctor A.G. Spasskiy and Assistant B.A. Fomin (MITsMiZ); Candidate of Technical Sciences L.A. Nisel'son (MITsMiZ); Professor-Doctor A.I. Yevstyukhin (Moscow Engineering- and Physical Institute); Candidate of Technical Sciences G.N. Nikolayenko, Professor-Doctor A.I. Belyayev and Candidate of Technical Sciences L.A. Firsanova (MITsMiZ). The conference adopted a resolution to the effect that a plan of research work in this problem for the next 6-7 years should be drawn up.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota imeni M.I. Kalinina (Moscow Institute of Nonferrous Metals and Gold imeni M.I. Kalinin).

AVAILABLE: Library of Congress

Card 2/2

MIKHAYLENKO, Andrey Yakovlevich; KRAPUKHIN, Vsevolod Valer'yevich;
DIOMIDOVSKIY, D.D., prof.-dokt., retsenzent; CHERNOV, A.N.,
red.; ARKHANGEL'SKAYA, M.S., red.izd-va; DOBUZHINSKAYA, L.V.,
tekhn.red.

[Furnaces for nonferrous metallurgy] Pechi tsvetnoi metallur-
gii. Izd.2., ispr. i dop. Moskva, Gos.nauchno-tekhn.izd-vo
lit-ry po chernoi i tsvetnoi metallurgii, 1959. 464 p.

(MIRA 13:4)

(Metallurgical furnaces) (Nonferrous metals--Metallurgy)

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75401

SOV/149-2-5-27/32

AUTHOR: Krapukhin, V V.

TITLE: Laboratory for Problems of Pure Metals, Metal Compounds,
and Semiconductors

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Tsvetnaya metal-
lurgiya, 1959, Vol 2, Nr 5, pp 179-180 (USSR)

ABSTRACT: For advanced studies of the above problems laboratories
are created at institutions of higher learning. The
laboratory at the Moscow Institute of Nonferrous Metals
was completed in 1957-1958. It has the most modern equip-
ment, including vacuum, induction and arc furnaces,
installations for monocrystal pulling, electron-optical
equipment, X-ray and radiographic spectral equipment,
installations for zone melting, mass spectrometers,
special installations for the study of residual electri-
cal resistance in metals at extremely low (1 to 4° K)
temperatures. Special hitherto scantily studied problems
like the extraction of metal compounds with organic
solvents, fractional distillations of volatile metals,
and the technology of preparation of pure germanium are

Card 1/2

Laboratory for Problems of Pure Metals,
Metal Compounds, and Semiconductors

75401
SOV/149-2-5-27/32

now a few of the processes handled by the laboratory. Less important operations in these studies are delegated to students of the first years. The laboratory is assisted by a scientific council consisting of professors and teachers of the university. In October 1957 an interuniversity conference on pure metals was arranged by the Moscow Institute of Nonferrous Metals and Gold. A brief report was published in this Journal, Nr 2, 1958.

Card 2/2

SOV/136-59-4-17/24

AUTHORS: Zaychenko, G.N. and Krapukhin, V.V., Candidates of
Technical Sciences

TITLE: Improvement of Automatic Furnace-Temperature Control
(Usovershenstvovaniye avtomaticheskogo regulirovaniya
temperatury v pechakh)

PERIODICAL: Tsvetnyye metally, 1959, Nr 4, pp 80-81 (USSR)

ABSTRACT: Automatic control equipment often occupies valuable
space. The authors describe their solution to this
problem for furnace temperature-control based on the
use of a single instrument, to control several parameters.
The system is simple and reliable and was developed and
tested with the participation of E.S.Makarova, engineer,
and V.P.Poplavskiy. Two variants for several equal
desired values are shown in Fig 1 and 2. The former
involves the use of a type KEP twelve-circuit controller,
while in the latter, in which intermediate relays are
used, this can be replaced by a simple switch with four
contacts. For different desired values the signals from
the different thermocouples are equalised in every
thermocouple circuit but one. The system works well

Card 1/2

SOV/136-59-4-17/24

Improvement of Automatic Furnace-Temperature Control

when the furnaces have large heat capacities. The equipment has been put into practice at the Moskovskiy kombinat tverdykh splavov (Moscow Cermets Combine). There are 3 figures.

ASSOCIATION: Krasnoyarskiy institut tsvetnykh metallov (b. Mintsvetmetzoloto) (Krasnoyarsk Non-Ferrous Metals Institute - formerly Mintsvetmetzoloto)

Card 2/2

SCV/136-59-6-13/24

AUTHORS: Zaychenko, G.N., Krapukhin, V.V., Candidates of
Technical Sciences and Porkhunov, P.M.

TITLE: The Complex Automation of High-temperature Electric
Furnaces (Kompleksnaya avtomatizatsiya vysokotemperaturnykh
elektropechey)

PERIODICAL: Tsvetnyye metally, 1959, Nr 6, pp 71 - 75 (USSR)

ABSTRACT: Work has been in progress for many years on the
mechanization of high-temperature furnaces at the
collective 'Moscow' Kombinat of Hard Alloys in close
co-operation with the Krasnoyarsk Institute of Non-
ferrous Metals. Two methods have been investigated -
mechanical and electrical. The first is preferred for
furnaces not requiring a protective atmosphere.
Figure 1 shows the general scheme for such a furnace.
The movement of the loading containers is by mechanical
rods. The slow movement is obtained by an electric
motor (D) through an electromagnetic clutch (ME) with
chain transmission. The fast return movement is
operated pneumatically (T1). Loading the containers
in the furnace is controlled by two pneumatic cylinders,
T2 and T3, 2-way electromagnetic valves EPPZ and EPFR

Card1/3

SOV/136-59-6-13/24

The Complex Automation of High-temperature Electric Furnaces

and a simple two-way valve, KP. Feeding containers for loading are shown, bottom left - Figure 1. The discharge is by normal free sliding. Figure 2 shows a scheme for a furnace in the production of tungsten carbide which uses a hydrogen atmosphere. An asbestos seal is used together with pressure from pneumatic cylinders. In the event of an accidental stoppage there is an automatic switch to cylinders supplied with compressed air from a balloon. The construction of the loading and discharging apparatus is shown in Figure 3. Discharging occurs by two rods - T4 and T5. The described automation has been fully proved after prolonged use and the conversion of all furnaces to this type has begun. There are 3 figures and 3 Soviet references.

Card 2/3

SOV/136-59-6-13/24

The Complex Automation of High-temperature Electric Furnaces

ASSOCIATIONS: Krasnoyarskiy institut tsvetnykh metallov
(Krasnoyarsk Institute of Non-ferrous Metals)
Moskovskiy kombinat tverdykh splavov
(Moscow Kombinat of Hard Alloys)

Card 3/3

KRAPUKHIN, V.V.; CHERNYAYEV, V.N.

Deep purification of silicon tetrachloride from accompanying impurities by means of rectification. Izv. vys. ucheb. zav.; tsvet. met. 3 no. 6:124-131 '60. (MIRA 14:1)

1. Krasnoyarskiy institut tsvetnykh metallov. Problemnaya laboratoriya chistykh metallov, metallicheskih soedineniy i poluprovodnikovyykh materialov.

(Silicon chloride) (Vapor-liquid equilibrium)

82625

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AUTHORS: Vigdorovich, V.N., Krapukhin, V.V. and
Chernomordin, I.F. (Moscow)

TITLE: Preparation of High Purity Aluminium¹ by the Zone
Melting Technique

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Metallurgiya i toplivo, 1960, No.4, pp.99-105

TEXT: In the first chapter of the present paper its authors deal with the theoretical aspects of zone refining of aluminium, discuss the characteristics of the systems formed by aluminium and other metals and classify these metals according to the magnitude of the distribution coefficient, K , by which the behaviour of a given impurity during zone refining is determined. In the next chapters, the results of experimental work carried out on aluminium grade AV000 are reported. The ingots, 580 mm long, with trapezoid cross section (height ~ 18 mm, bases ~ 16 and 20 mm), placed in a graphite boat, were refined in vacuum of 7.5×10^{-5} mm Hg. The length of the molten zone was 25 to 30 mm, the experimentally determined optimum rate of transfer and number of passes being 0.526 to 1.25 mm/min and 12 to 15 respectively. Particular
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attention was paid to the purity of graphite and the temperature of the molten zone was maintained at 750°C to minimize the risk of aluminium reacting with graphite. The impurity content in the zone-refined material was determined by spectrographic analysis (Fe, Cu, Si), colorimetric analysis (Fe, Cu, Si, Mg and Zn) and by the radio-active tracer technique (Cu, W, Mn, Na). The degree of purity attained was, in general, quite satisfactory. Thus, for instance, the Fe and Si contents were reduced by 3 and 4 areas of magnitude respectively; however, the decrease in the Fe, Cu and Mg content was considerably lower. The degree of purity of the zone-refined aluminium was also determined by measuring its electrical resistivity ρ_0 at 4.2°K which was found to be 3.5×10^{-10} ohms cm against 4.0×10^{-9} ohms cm of the starting material. Having determined an empirical relationship $\rho_0 = 6.5 \times 10^{-7} C$, where C is the total impurity content, the present authors calculated that, as a result of the zone refining, C of aluminium was reduced from 6.65×10^{-3} to $5.04 \times 10^{-4} \%$. The mechanical properties of the zone-refined metal were

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U.T.S. = 2.8 to 2.6 kg/mm², elongation δ = 72 to 84% and
Brinell hardness H_B = 6.6 to 6.4 kg/mm², as compared with
U.T.S. = 5.0 to 3.8 kg/mm², δ = 45 to 52% and H_B = 10 to 15 kg/mm²
of the starting material. The zone-refined aluminium, when used
in the manufacture of silicon power rectifiers, was found to improve
their characteristics. There are 4 figures, 4 tables and
17 references: 12 Soviet, 3 English and 2 German. ✓

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KRAPUKHIN, V.V.

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AUTHORS: Krapukhin, V.V., Vigdorovich, V.N.

TITLE: Operating Conditions of a Heater on a Zone Recrystallization Furnace

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,
1960, No. 4, pp. 122-130 ✓

TEXT: The basic condition to ensure the effective distribution of impurities of an ingot subjected to zone recrystallization, is the constant length of the molten zone during the whole process. This factor is the basic criterion for maintaining the constant molten of the crystallization front and the crystallization cooling rate. Therefore it is necessary to determine the conditions of changing power consumption of the heater. To control the operating conditions of the heater, the heat transfer in locally heated rods is investigated and the results obtained are used to calculate the consumption of heat energy in zone recrystallization. Conditions of zone recrystallization are investigated and it is established that the highest power must be supplied to the heater when producing the molten zone at the initial section of the ingot. The power is reduced when the length of the molten zone increases until the motion of the molten-solid boundary is equal to the motion speed of the heater. As soon as crystals begin to form behind the molten

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zone, the power remains almost constant and increases slightly when the heater moves along the ingot. When the molten zone reaches the end of the ingot the power is reduced to ensure the oriented crystallization and then slightly increases. The established notions were employed to set up the operational conditions of heaters in furnaces of zone recrystallization of aluminum and antimony. The design of a heater (shown in Fig. 3) meets the following requirements: 1) the emanated heat is sufficient to melt a given section of the material subjected to zone recrystallization, 2) the heat flow is focused in a maximum degree to obtain the shortest possible molten zone. The heater consists of five Ni 626 (EI626)-alloy wire windings (2.0 mm in diameter) mounted in foamy chamotte. The leads are made through porcelain insulators. Three windings of water-cooled copper coil (5 mm in diameter) are located at each side of the heater. The water flow is 2 l/min. The cooling capacity is 3.5 kcal/min. Air cooled condensers are used for antimony because of its different heat conductivity. Graph 6 shows the temperature curve of an aluminum ingot of 1.5 cm² cross section. The power of the heater is 625 watt, the molten speed is 0.526 mm/min at the center of the ingot. The temperature of the molten zone of 15 mm length is 750°C at its center. This amount of superheat must ensure the satisfactory distribution of impurities in the zone. The cooling rate of crystallization is determined from the motion speed of the heater and the

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